

### **REMARKS/ARGUMENTS**

In the most recent Office Action, claims 1, 3 and 24-32 were examined. Claim 25 is constructively restricted and withdrawn from consideration. Claims 1, 3, 24 and 26-32 stand rejected.

In response, claim 25 is canceled. Accordingly, claims 1, 3, 24 and 26-32 are pending in the present application. No new matter is added.

Applicants thank the Examiner for the thorough search and consideration of the present invention, and respond to the comments in the Office Action as follows.

#### **Elections/Restrictions**

The Office Action states that claim 25 is independent or distinct from the original invention claimed, and having received an action on the merits is withdrawn from consideration as directed to a constructively non-elected invention.

Applicants have canceled claim 25 from the present application without prejudice, thereby rendering the restriction of that claim moot.

#### **Claims Rejections - 35 U.S.C. §102**

Claims 1, 3 and 24-30 are rejected under 35 U.S.C. §102(e) as being anticipated by Sera (U.S. Patent No. 6,559,93). In particular, the Office Action states that Sera discloses each and every element recited in the rejected claims. The rejection is respectfully traversed.

Claim 25 is canceled from the present application, thereby rendering the rejection of that claim under 35 U.S.C. §102(e) moot.

The disclosure by Sera describes the arrangement of cells in an LCD display, where the cells include a TFT (thin film transistor) arranged on a glass substrate with a light shielding film disposed between the TFT and the glass substrate, the TFT being overlaid by a data line and a black matrix used to form the LCD pixels.

Claims 1, 3, 24 and 26-30 recite the pertinent elements of:

an opaque optical shielding layer disposed to lie between the insulating substrate layer and the active polysilicon layer;

wherein the optical element is part of a liquid crystal display and the opaque shielding layer also functions as a black matrix for said display.

It is applicants contention that the above recitations in claims 1, 3-24 and 26-30 describe elements that are not disclosed in the reference by Sera. In particular, applicants take the position that, while Sera appears to disclose a light shielding film that is similar to the claimed opaque optical shielding layer, Sera lacks specific disclosure with respect to the light shielding film being used as a black matrix for the LCD display. Applicants accordingly assert that because the disclosure by Sera does not teach each and every element recited in claims 1, 3, 24 and 26-30, that the rejection under 35 U.S.C. §102(e) is overcome.

The Office Action states the position that while Sera appears to disclose multiple light shielding layers, including a light shielding film and a black matrix layer, the presence of multiple layers does not prevent the device of Sera from reading on the claims of the present invention. The Office Action also notes that the claims are written in “comprising” type format.

Applicants first note that claim 1 of the present application fail to include the term “comprising”, but rather recites “an optical element consisting of.”

Applicants also understand the position taken in the Office Action to mean that while the disclosure by Sera does not explicitly disclose that the light shielding film is a black matrix layer, the same functionality is inherently present in the light shielding film disclosed by Sera, regardless of the presence of the black matrix layer also taught by Sera. Accordingly, applicants respectfully submit that the present rejection of claims 1, 3, 24 and 26-30 relies on an inherent feature of the prior art, because the disclosure by Sera does not directly teach that the light shielding film may be used as a black matrix for the LCD display. Anticipation under 35 U.S.C. §102 requires that the reference teach every aspect of the claimed invention either explicitly or impliedly, and any feature not directly taught must be inherently present. MPEP §706.02 (IV).

However, applicants note that while a rejection under 35 U.S.C. §102 may be based on an inherent disclosure of a prior art reference, the Examiner must provide a rationale or evidence tending to show inherency. MPEP §2112 (IV). That is, the fact that a certain result or characteristic may be present in the prior art is not sufficient to establish the inherency of that

result or characteristic. In relying on a theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.” Ex parte Levy, 17 USPQ2d 1461, 1464 (BPAI 1990).

Applicants respectfully submit that the Examiner has not established a basis in fact or technical reasoning that reasonably supports the rejection of claims 1, 3, 24 and 26-30 over the disclosure by Sera under 35 U.S.C. §102(e), because the Examiner simply states that Sera discloses a light shielding film that is known in the art to be the function/definition of a black matrix. That is, the Examiner has provided no evidentiary or technical support for the conclusion presented. Indeed, applicants note that the disclosure by Sera provides for a light shielding film that is formed between a glass substrate and a TFT, where the light shielding film is:

formed into a prescribed pattern, ... by the well known method of lithography so as to form, in [the] active-layer formation area of the TFT, a pattern that has a width of 2.5 micrometers for each side from the center of the active layer in the direction of the channel width.

Sera thus demonstrates the use of a light shielding film only in the locale of a TFT, which apparently forms a pattern of opaque rectangles over the glass substrate, over which is placed the TFT devices. Such a configuration does not form a black matrix for an LCD display. Indeed, the pattern formed by the light shielding film appears to be completely opposite in its transparent/opaque structure to that of the black matrix for the LCD. While a black matrix permits the passage of light in discrete rectangles, the light shielding film disclosed by Sera blocks light in discrete rectangles.

Accordingly, applicants respectfully submit that the rejection of claims 1, 3, 24 and 26-30 under 35 U.S.C. §102(e) cannot be maintained because the disclosure by Sera does not teach every aspect of the claimed invention, either directly or inherently. Applicants have recited an opaque optical shielding layer disposed between an insulating substrate and an active polysilicon layer that functions as a black matrix, which is not to be found in the disclosure by Sera. Because claims 1, 3, 24 and 26-30 recite features that are not disclosed in the cited prior art

reference of Sera, applicants respectfully submit that the rejection of those claims under 35 U.S.C. §102(e) is overcome, and respectfully requests that it be reconsidered and withdrawn.

Applicants also note that the Office Action states that claims 26 and 27 are rejected under 35 U.S.C. §102(e) over the disclosure by Sera for the teaching in Sera that the light shielding film may be composed of WSi. However, applicants have not recited the use of WSi in claims 26 and 27, and submits that the Office Action reads into the prior art that which it does not in actuality contain. The Office Action states that because applicants have phrased claims 26 and 27 using the term “comprised of” or “comprises” that any materials recited in the claims includes any compounds whatsoever formed by the materials. Applicants strongly contest this reading of the “comprising” phraseology, especially when used in an anticipation rejection under 35 U.S.C. §102. WSi is a completely different material with completely different properties and molecular structure than W alone. For example, WSi is not a refractory metal called for in claims 26 and 27. Accordingly, applicants contest the statements in the Office Action with regard to claims 26 and 27 in support of anticipation by the disclosure by Sera.

### **Claim Rejections - 35 U.S.C. §103**

The Office Action states that claims 31 and 32 are rejected under 35 U.S.C. §103(a) as being unpatentable over Sera in view of Shinohara et al. (U.S. Patent No. 6,292,246). In particular, the Office Action states that while Sera does not explicitly disclose an adhesive layer between a refractory metal and a transparent insulating substrate, the same is shown by Shinohara et al. in an obvious combination. The rejection is respectfully traversed.

First, applicants note that claims 31 and 32 recite elements that are not disclosed by Sera or Shinohara et al., either alone or in combination. Among other limitations, claims 31 and 32 call for an opaque optical shielding layer that functions as a black matrix for an LCD, a refractory metal encapsulated in a suitable barrier layer and an adhesive layer disposed between the refractory metal and the transparent insulating substrate. Neither of the disclosures by Sera or Shinohara et al. teach or suggest all of these claim limitations, since neither of these references disclose, either alone or in combination, an opaque optical shielding layer between an insulating

substrate and an active polysilicon layer that serves as a black matrix for the LCD, with the opaque optical shielding layer being a refractory metal encapsulated in a suitable barrier layer, and an adhesive layer disposed between the refractory metal and the transparent insulating substrate. Accordingly, the cited prior art references do not teach all of the claim limitations recited in claims 31 and 32, either alone or in combination, and therefore fail to support a *prima facie* case of obviousness. MPEP 2143.03.

In addition, applicants respectfully submit that the Examiner has not provided evidence of obviousness as is required to support a *prima facie* case of obviousness with respect to claims 31 and 32. “With regard to rejections under 35 U.S.C. §103, the Examiner ***must provide evidence*** which as a whole shows that the legal determination sought to be provided (i.e., the reference teachings establish a *prima facie* case of obviousness) is more probable than not. MPEP §2142 (emphasis added). The disclosure by Sera fails to teach or suggest the use of tungsten or any other refractory metal in the formation of an LCD. The disclosure by Shinohara et al. fails to teach or suggest an adhesive layer disposed between a refractory metal and a transparent insulating substrate. The disclosure by Shinohara et al. is clear that the disclosed device is a reflection type liquid crystal device, so that no transparent insulating substrate is taught or suggested. Accordingly, the references by Sera and Shinohara et al. fail to provide any evidence in support of a *prima facie* case of obviousness against claims 31 and 32 with respect to the recitations of an opaque shielding layer as a black matrix, a refractory metal encapsulated in a suitable barrier layer as the opaque shielding layer and an adhesive layer disposed between the refractory metal and a transparent insulating substrate.

Applicants also submit that it would not be obvious to one of ordinary skill in the art to combine or modify the references by Sera and Shinohara et al. to arrive at the invention recited in claims 31 and 32. The establishment of a *prima facie* case of obviousness requires some suggestion or motivation provided by the references themselves either to modify the references or to combine their teachings. There must also be a reasonable expectation of success of the combination, and the combination must teach or suggest all the claim limitations. The combination of Sera and Shinohara et al. fail to teach or suggest all the claim limitations recited in claims 31 and 32, as discussed above. In addition, there is no suggestion or motivation in the

references themselves that the reference teachings can or should be combined to arrive at the invention recited in claims 31 and 32. The disclosure by Sera is for an LCD device with a transparent substrate with back light source and a light shielding film composed of WSi positioned at particular, isolated locations on the LCD device. The disclosure by Shinohara et al. calls for a light reflective liquid crystal device with a silicon substrate that is not transparent, and apparently only discloses the use of tungsten for electrode studs, without any consideration for light refraction. Accordingly, it would not be obvious to one of ordinary skill in the art to combine the references by Sera and Shinohara et al. because neither of the references teach or suggest their modification to arrive at the invention recited in claims 31 and 32. Indeed, because of the substantially different nature of the two different devices, applicants respectfully submit that one of ordinary skill in the art would be guided away from modification of either of the references based on the other's teaching or suggestion. For example, a combination of the disclosures by Sera and Shinohara et al. would at most result in a tungsten electrode in the device by Sera, or a less effective reflective liquid crystal device by Shinohara et al., where the tungsten must serve as a light shielding film as well as electrode studs. This is not the invention recited in claims 31 and 32.

In view of the above discussion, applicants respectfully submit that a *prima facie* case of obviousness has not been established against claims 31 and 32. Applicants therefore respectfully submit that the rejection of claims 31 and 32 under 35 U.S.C. §103(a) is overcome, and respectfully request that it be reconsidered and withdrawn.

### **Premature Final Rejection**

Applicants respectfully submit that the final rejection lodged in the most recent Office Action is premature because of the issues developed in the original application are the same as those relevant to the present claims in the application. For example, claim 5 in the original application contains all of the elements of present claim 1, upon which original claim 5 depended. Because original claim 5 recited all of the elements found in present claim 1, no new issues have been developed that necessitated new grounds for rejection. Accordingly, the final

rejection is premature, and applicants request that the present application remain pending with the primary Examiner while the issue is determined. MPEP§706.70(c). Applicants respectfully submit that because the new grounds of rejection was not necessitated by applicants' amendments of the claims, and that a narrow set of issues for further prosecution or appeal have not been developed, the final rejection is premature and respectfully request that it be reconsidered and withdrawn.

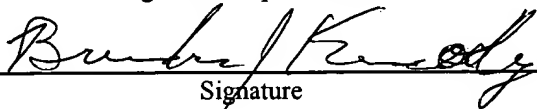
### **Conclusion**

Applicants have amended the claims to reduce the number of claims pending and to place the application in better condition for allowance or appeal. Accordingly, the present amendment is thought not to raise any new issues requiring further consideration by the Examiner and entry of the amendment is respectfully requested. Applicants further submit that the present response addresses all outstanding issues raised in the most recent Office Action. In view of the above discussion and amendments, applicants respectfully submit that the application is now in condition for allowance, and earnestly solicit notice to that effect. If it is believed that an interview would contribute to rapid progress in the disposition of the application, the Examiner is requested to contact the undersigned counsel at the number provided below.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on August 5, 2004 :

Brendan J. Kennedy

Name of applicant, assignee or  
Registered Representative



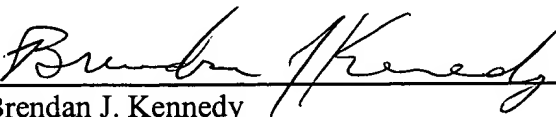
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Date of Signature

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Respectfully submitted,



Brendan J. Kennedy

Registration No.: 41,890

OSTROLENK, FABER, GERB & SOFFEN, LLP

1180 Avenue of the Americas

New York, New York 10036-8403

Telephone: (212) 382-0700